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OCT 2 4 2007

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1   1. (Original) A defect data analysis method comprising the steps of:

2   obtaining defect positions by inspecting a substrate processed in a process of

3 circuit pattern formation on the substrate;

4   obtaining distribution of defects on the processed substrate from the defect

5 position information obtained;

6   classifying the defect distribution characteristics into any one of the following

7 distribution characteristic categories by using the information on the defect position on the

8 processed substrate: repeated defects, clustered defects, arc-shaped regional defects, radial

9 regional defects, line type regional defects, ring and blob type regional defects and random

10 defect; and

11   displaying the classified results by using different colors for respective categories.

1   2. (Currently amended) A defect data analysis method as claimed in claim 1,

2 wherein the arc-shaped regional defects are detected by obtaining a center candidate point of the

3 defect distribution from the defect distribution characteristic on the Cartesian coordinates and

4 extracting the defects from [[the]] a polar coordinate information on each defect using the center

5 candidate point as an origin.

1   3. (Original) A defect data analysis method as claimed in claim 1, wherein the

2 center candidate point of the defect distribution is extracted as a point having more intersections

3 of perpendicular bisectors of straight lines connecting arbitrary two defects among the defects

4 distributed on the processed substrate.

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1   4. (Original) A defect data analysis method as claimed in claim 1, wherein the

2   defects classified into the arc-shaped regional defects are judged to be scratches generated by

3   CMP (chemical mechanical polishing).

1   5. (Currently amended) A defect data analysis method as claimed in claim 1,

2   wherein the radial regional defects are detected by creating distribution data on ~~the polar~~

3   ~~coordinate~~ <u>a ρ θ</u> space according to the information on the Cartesian coordinate space of the

4   defects distributed on the processed substrate and extracting the radial regional defects from the

5   distribution data on the ~~polar coordinate~~ <u>ρ θ</u> space.

1   6. (Original) A defect data analysis method as claimed in claim 5, wherein the

2   information on the defects distributed on the processed substrate on the Cartesian coordinate

3   space is converted into the position information on the polar coordinate space by using the

4   information on the distance between the straight line connecting arbitrary two of the defects

5   distributed on the processed substrate and the origin of the Cartesian coordinate space and

6   information on the angle defined by the X axis and the perpendicular drawn from the origin of

7   the Cartesian coordinates to a straight line connecting arbitrary two of defects.

1   7. (Original) A defect data analysis method comprising the steps of:

2   obtaining distribution of the defects on the processed substrate from defect

3   position information obtained by inspecting a processed substrate processed in a process for

4   forming a circuit pattern on the substrate;

5   identifying repeated defects by using the obtained defect distribution information;

6   identifying clustered defects by using the obtained defect distribution information;

7   identifying arc-shaped regional defects by using the obtained defect distribution

8   information;

9   identifying radial regional defects by using the obtained defect distribution

10   information;

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11   identifying line type regional defects by using the obtained defect distribution

12   information;

13   identifying ring and blob type regional defects by using the obtained defect

14   distribution information;

15   extracting random defects by using the obtained defect distribution information;

16   and

17   processing the defect information obtained from the step of identifying the

18   repeated defects to the step of identifying the random defects and displaying the different defect

19   distribution categories by using different colors.

1   8. (Original) A defect data analysis method as claimed in claim 7, wherein the

2   processing step is realized by displaying the defect information in a wafer map format on the

3   display screen.

1   9. (Original) A defect data analysis method as claimed in claim 7, wherein in the

2   step of identifying arc-shaped regional defects and in the step of identifying radial regional

3   defects, the arc-shaped regional defects and the radial regional defects are identified by using

4   defect polar coordinate information created according to the obtained defect distribution

5   information.

1   10. (Original) A defect data analysis method comprising the steps of:

2   creating a wafer map showing positions of all the defects on a coordinate system

3   based on the wafer origin reference according to the defect data including at least defect position

4   coordinate table of defects obtained by inspecting a processed substrate processed in a process

5   for forming a circuit pattern on the substrate;

6   weighting a point where a perpendicular of arbitrary two defects from the wafer

7   map passes according to the distance between the two defects and voting the point onto the xy

8   space;

9   detecting (x, y) corresponding to the maximum value on the voted space;

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10   polar-coordinate-converting the wafer map onto the rθ space by using the detected

11   (x, y) as the origin; and

12   identifying an arc-shaped regional defect according to a horizontal segment

13   detected in the aforementioned polar coordinate converted state.

1   11. (Original) A defect data analysis method comprising the steps of:

2   creating a wafer map showing positions of all the defects on a coordinate system

3   based on the wafer origin reference according to the defect data including at least defect position

4   coordinate table of defects obtained by inspecting a processed substrate processed in a process

5   for forming a circuit pattern on the substrate,

6   weighting ρ,θ corresponding to a segment connecting arbitrary two defects from

7   the wafer map according to the distance between the two defects and voting them; and

8   detecting a plurality of peaks on the voted space and when concentration of voting

9   to a predetermined range around ρ=0 exceeds a predetermined threshold value, identifying a

10   radial regional defect according to peaks contained in the range.

1   12. (Original) A defect data analysis apparatus comprising:

2   input means for inputting information on the defect positions obtained by

3   inspecting a processed substrate processed in a process for forming a circuit pattern on the

4   substrate;

5   defect distribution calculation means for obtaining distribution of the defects on

6   the processed substrate from the information on the defect positions input from the input means;

7   defect distribution characteristic category classification means for, by using the

8   defect position information on the processed substrate, classifying the defect distribution

9   characteristic obtained by the defect distribution calculation means into any one of repeated

10   defects, clustered defects, arc-shaped regional defects, radial regional defects, line type regional

11   defects, ring and blob type regional defects, and random defects; and

12   output means for outputting the information on the defect distribution

13   characteristic categories classified by the defect distribution characteristic category classification

14   means.

1   13. (Original) A defect data analysis apparatus as claimed in claim 12, wherein

2   the output means includes a display section for displaying the information on the defect

3   distribution characteristic categories classified by the defect distribution characteristic category

4   classification means by using different colors for the respective distribution characteristic

5   categories.

1   14. (Original) A review system comprising:

2   an inspection apparatus for scanning a surface of a processed substrate by light or

3   electronic beam so as to inspect a foreign matter or a pattern defect on the processed substrate

4   and outputting defect data containing at least position coordinates of the detected foreign matter

5   or the pattern defect; and

6   a defect data analysis apparatus for, by using the defect position coordinate

7   information contained in the defect data output from the inspection apparatus, obtaining a defect

8   distribution characteristic and classifying the distribution characteristic into any one of the

9   distribution characteristic categories: repeated defects, clustered defects, arc-shaped regional

10   defects, radial regional defects, line type regional defects, ring and blob type regional defects,

11   and random defects,

12   wherein an image of the defect classified by the defect data analysis apparatus is

13   acquired by light or electron beam and reviewed.

1   15. (Original) A review system as claimed in claim 14, wherein the defect data

2   analysis apparatus creates a report according to the review result by the review apparatus and the

3   information on the defect distribution pattern classified by the defect data analysis apparatus.